

Abstract

We consider the large time behaviour of solutions to the porous medium equation with a Fisher-KPP type reaction term and nonnegative, compactly supported initial function. It is well known that the spatial support of the solution to this problem remains bounded for all time. In spatial dimension one it is known that there is a minimal speed for which the equation admits a traveling wave solution with a finite front, and this traveling wave solution is asymptotically stable. In dimension one we obtain an analogous stability result for the case of compactly supported initial data, not necessarily symmetric. In higher dimensions we show that the traveling wave is still attractive, albeit that a logarithmic shifting occurs. It is a joint work with Yihong Du in University of New England and Fernando Quiros in Universidad Autonoma de Madrid.